



# countdown

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## Mission crew to arrive Sunday for launch rehearsal



### ◆ Shuttle Update:

As of press time, the STS-125 mission crew is scheduled to fly into KSC Sunday evening for the three-day Terminal Countdown Demonstration Test. They will practice emergency egress from the pad, work with equipment for the mission and suit up for a simulated launch countdown.

◆ **Constellation Update:** Scale models of the Orion crew exploration vehicle recently were tested at NASA's Neutral Buoyancy Laboratory, or NBL, at the Johnson Space Center in Houston and at a wave tank at Texas A&M University in College Station.

NASA conducted a series of buoyancy and flotation characteristics tests using the NBL and a 1/4-scale model of the Orion crew capsule. The model was lowered into the NBL's 6.2-million-gallon pool and floated in a series of positions. This testing will allow the engineers and the NBL team to develop their full-scale crew training mock-up that will be used for mission training and for creating the crew safety procedures for water-based landings of the Orion crew capsule.

The team also performed a series of tests to validate a new seal design and updated wireless communications. Engineers also evaluated a prototype floatation collar for the spacecraft, which was provided by KSC.

■ **NASA Uses Commercial Microgravity Flight Services For First Time** — Last week, NASA used microgravity

research flights aboard commercially owned aircraft for the first time to test hardware and technologies. These flights, on an airplane operated by the Zero Gravity Corporation, simulated the weightless conditions of space. The new space experiment rack, called FASTRACK, under development at KSC was one of the those tested.

In addition to numerous other NASA experiments, five companies sponsored by the agency's Innovative Partnerships Program flew experiments aboard the reduced-gravity aircraft flights from Ellington Field in Houston.

The flights were the first in NASA's Facilitated Access to the Space Environment for Technology Development and Training program, called FAST.

The companies, which are participating in the Small Business Innovation Research program, tested five new technologies Sept. 9-10:

- Pneumatic mining under lunar gravity conditions (Honeybee Robotics of New York)
- Aircraft sensor-logger operations (Metis Design Corporation of Cambridge, Mass.)
- Microgravity flight testing of self-deploying shells (Mevicon Inc. of Sunnyvale, Calif.)
- Virtual sensor test instrumentation operations (Mobitrum Corporation of Silver Spring, Md.)
- Nanofluid coolant testing (nano-Composix Inc. of San Diego, Calif.)

Representatives of the companies were aboard the aircraft to operate and evaluate their technologies during the flights, which created zero-gravity and

## Buoyancy tests on Orion provide data for full-scale mock-up

lunar-gravity conditions. The technologies will improve air and space vehicle capabilities and support the design of systems for the exploration of the moon and operations there.

### ■ Hubble Space Telescope Servicing Mission 4 Briefing To Employees Sept. 24

— All employees are invited to attend a "brown bag" lunch presentation on the upcoming Hubble Space Telescope servicing mission. Frank Cepollina, HST program manager from Goddard Space Flight Center, will be the guest speaker. The briefing will take place from 11 a.m. to noon Sept. 24 at the O&C Mission Briefing Room. Seating will be on a first-come, first-served basis.

### ■ Special Drawing/Workforce Gala

— A celebration of all employees at the center, the Workforce Gala will be held Sept. 27. Buy your tickets by close of business **today** to be placed in a drawing for a free ticket on Friday. The event will be held at the Radisson at the Port Pavilion and will include entertainment, plated dinner and dancing. Tickets are \$25 per person and are available at the NASA Exchange stores (HQ, O&C, SSPF, OSB I & II) and the NASA Office of Diversity & Equal Opportunity (HQ/2327). Reserve a table for your group! Contractors, civil servants and their guests are invited.

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